

Remarks

In response to the Office Action dated July 6, 2005, Applicants elect for prosecution in this application all claims that belong to Group I, i.e., Claims 1-20.

The requirement for election is traversed because the inventions set out by the claims in Groups I and II clearly are related. Applicants submit that a thorough search and examination of any Group would be relevant to the examination of the other Group and would not be a serious burden on the Examiner. The Office Action suggests at page two that “the search required for Group I is not required for Group II”. Applicants disagree with this suggestion because the Claims of Group I are directed to a method of calculating a helium content of stainless steel components in a nuclear reactor and the Claims of Group II are directed to a system for calculating, by simulation, a helium content of stainless steel components in a nuclear reactor. Applicants submit that a search of the subject matter of the Claims of Group II would also include the subject matter of the Claims of Group I, or else the search would be incomplete. Additionally, requirements for election are not mandatory under 35 U.S.C.

Further, the Office Action has not shown the claims of Group I and the claims of Group II are patentably distinct in accordance with MPEP §806.05(e). Particularly, the Office Action has not shown that the apparatus as claimed can be used to practice another and materially different process. Specifically, the Office Action suggests at page 2 that the apparatus “can be used to practice another materially different process, e.g., burn-up calculations for in-core fuel management or for nuclear materials accounting purposes”. Applicants disagree with this suggestion. Particularly, Applicants submit that the system claimed in Group II Claims 21-29 is configured to determine a helium content of stainless steel components in a nuclear reactor and is

not configured to do burn-up calculations for in-core fuel management, nor is the system claimed in Group II Claims 21-29 configured to do nuclear materials accounting. Applicants submit that the claimed system would have to be reconfigured to perform these other tasks and would therefore, not be the apparatus as claimed in Group II Claims 21-29 as required by MPEP §806.05(e). Further, the suggestion in the Office Action that the process can be performed by hand is unrealistic because of the sheer volume of calculations that are needed to perform the method. Specifically, Applicants submit that one skilled in the art would understand that the method steps recited in Claim 4 can only be performed with a computer and could not be performed by hand. Accordingly, Applicants respectfully request that the restriction requirement be withdrawn.

Also, Applicants, with traverse, elect Species B (embodiment wherein neutron fluence is determined by calculating neutron flux). Applicant submits that Claims 1 and 3-29 read on Species B.

The requirement for election is traversed because Species A and B clearly are related. Also, Applicants respectfully submit that a thorough search and examination of Species B would be relevant to the examination of Species A, and would not be a serious burden on the examiner. Additionally, requirements for election are not mandatory under 35 U.S.C. Accordingly, reconsideration of the election requirement is requested.

Also, Applicants, with traverse, elect Species C (embodiment wherein neutron flux is calculated by using a Monte Carlo radiation transport criticality mode methodology). Applicant submits that Claims 1-29 read on Species D.

The requirement for election is traversed because Species C and D clearly are related.

Applicant respectfully submits that independent Claims 1, 12, and 21 are generic and readable on Species C and Species D. Also, Applicants respectfully submit that a thorough search and examination of Species C would be relevant to the examination of Species D, and would not be a serious burden on the examiner. Additionally, requirements for election are not mandatory under 35 U.S.C. Accordingly, reconsideration of the election requirement is requested.

Also, Applicants, with traverse, elect Species G (embodiment wherein neutron flux is calculated at an end of the full power phase of the fuel cycle). Applicant submits that Claims 1-29 read on Species G.

The requirement for election is traversed because Species E, F and G clearly are related. Applicant respectfully submits that independent Claims 1, 12, and 21 are generic and readable on Species E, Species F and Species G. Also, Applicants respectfully submit that a thorough search and examination of Species G would be relevant to the examination of Species E and F, and would not be a serious burden on the examiner. Additionally, requirements for election are not mandatory under 35 U.S.C. Accordingly, reconsideration of the election requirement is requested.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Favorable action is respectfully

solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael Tersillo", written over a horizontal line.

Michael Tersillo
Registration No. 42,180
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070